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PTO/SB/08A/B (09-06)

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<b>Substitute for form 1449/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application Number	10/579,106
				Filing Date	May 12, 2006
				First Named Inventor	Moser et al.
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
Sheet	1	of	3	Attorney Docket Number	30610/40661

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	B1	EP-0165595	12-27-1985	Viscontini, et al.		✓
	B2	JP-1221380	09-04-1989	Haruhiko et al.		

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C1	Aizpurua et al., "Reaction of Hindered Trialkylsilyl Esters and Trialkylsilyl Ethers with Triphenylphosphine Dibromide: Preparation of Carboxylic Acid Bromides and Alkyl Bromides under Mild Neutral Conditions", <i>J. Org. Chem.</i> , 51(25):4941-4943 (1986).	
	C2	Ashton et al., "Amino Acid Derivatives of $\beta$ -Cyclodextrin", <i>J. Org. Chem.</i> , 61(3):903-908 (1996).	
	C3	Bell et al., "The Reduction of Organic Halogen Compounds by Sodium Borohydride", <i>J. Org. Chem.</i> , 34:3923-3926 (1969).	
	C4	Blau et al., "Disorders of Tetrahydrobiopterin and Related Biogenic Amines," <i>The Metabolic and Molecular Bases of Inherited Disease</i> , 8th Ed., Chapter 78, pp.1725-1776 (2001).	
	C5	Bradshaw et al., "Synthesis of the Organic Ligand of the Molybdenum cofactor, in protected form", <i>J. Chem. Soc.</i> , 1:3239-3244 (2001).	
	C6	Bredereck et al., "Darstellung und Eigenschaften der Amidacetale und Aminalester", <i>Chem. Ber.</i> , 101:41-50 (1968).	
	C7	Chaudhary et al., "4-Dimethylaminopyridine: An Efficient and Selective Catalyst for the Silylation of Alcohols", <i>Tet. Let.</i> , 2:99-102 (1979)	
	C8	Corey et al., "Protection of Hydroxyl Groups as tert-Butyldimethylsilyl Derivatives", <i>J. Am. Chem. Soc.</i> , 94(17):6190-6191 (1972).	
	C9	Green et al., "Protective Groups in Organic Synthesis," <i>Wiley &amp; Sons</i> , 3rd Ed., pp.201-245 (1999).	
	C10	Hanaya et al., "Selective N(3)-and O <sup>4</sup> -Alkylation of L-Biopterin: A Convenient Synthesis of 3- and O <sup>4</sup> -Methyl-L-biopterin and the Versatile N <sup>2</sup> -(N,N-dimethylaminomethylene)-N(3)-p-nitrophenethyl-Protected L-Biopterin", <i>Pteridines</i> , 6(1):1-7 (1995)	
	C11	Hanessian et al., "Reactions of Carbohydrates with (Halomethylene)dimethyliminium Halides and Related Reagents. Synthesis of Some Chlorodeoxy Sugars", <i>J. Org. Chem.</i> , 34(7):2163-2170 (1969).	
	C12	Hart et al., <i>J. Organic. Chem.</i> , Vol. 68, No. 1, pp.187-190 (2003).	
	C13	Hutchins et al., "Sodium Borohydride in Dimethyl Sulfoxide or Sulfolane. Convenient Systems	
Examiner Signature			Date Considered

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				First Named Inventor	Moser et al.
				Art Unit	Not Yet Assigned
				Examiner Name	Not Yet Assigned
				Attorney Docket Number	30610/40661
Sheet	2	of	3		

		for Selective Reductions of Primary, Secondary and Certain Tertiary Halides and Tosylates", <i>Tet. Let.</i> , No. 40, pp.3495-3498 (1969).	
	C14	International Search Report, International Application No. PCT/US2004/038313, dated January 11, 2007	
	C15	Kaiser et al., "80. Synthesis of Biopterin from Neopterin? The Formation of Pyrrolo[1,2-f]pteridins upon Side-Chain Activation of Neopterin", <i>Helv. Chim. Acta.</i> , 70:766-770 (1987).	
	C16	Kim et al., "Direct Conversion of Silyl Ethers into Alkyl Bromides with Boron Tribromide", <i>J. Org. Chem.</i> , 53:3111-3113 (1988).	
	C17	Kang et al., "Synthesis of 2-ethylthio-6-(3-hydroxy-1,2-O-Isopropylidenepropyl)pteridin-4(3H)-One", <i>Heterocycles</i> , 53(7):1551-1557 (2000)	
	C18	Kikuchi et al., "Synthesis of (-)-Biopterin Using (S)-Ethyl Lactate as a Starting Material", <i>Agric. Biol. Chem.</i> , 53(8):2095-2100 (1989)	
	C19	Larock, "8. Electrophilic Acylation. 1. Synthesis of Aldehydes", <i>Comprehensive Organic Transformations</i> , Wiley VCH, 2nd Ed., pp. 681-708 (1999).	
	C20	Mattes et al., "Reactivity of t-butyltrimethylsilyl ethers: a facile conversion into bromides", <i>Tet. Let.</i> , 28(15):1697-1698 (1987).	
	C21	Patterson et al., "The Synthesis of a Pteridine Required for the Growth of <i>Crithidia fasciculata</i> ", <i>J. Am. Chem. Soc.</i> , Vol. 78:5868-5871 (1956)	
	C22	Pellicciari et al., "Stereospecific Synthesis of the Enantiomers of Nicotinylalanine, a Neuroprotecting Agent", <i>Tet. Let.</i> , 33:3003-3004 (1992).	
	C23	Ross et al., "Anodic Oxidations. V. The Kolbe Oxidation of Phenylacetic Acid and 1-Methylcyclohexanecarboxylic Acid at Platinum and at Carbon", <i>The Journal of Organic Chemistry</i> , 24:2923-2927 (1969)	
	C24	Russell et al., "Model Studies Related to the Cofactor of the Oxomolybdoenzymes; Part 6: An Improved Synthesis of 6-Substituted Pterins from 2,4,5-Triamino-6-hydroxy-pyrimidine and D-Glucose", <i>Synlett</i> , pp. 711-712 (1992).	
	C25	Russell et al., "Model Studies Related to the Cofactor of the Oxomolybdoenzymes. Part 5. Synthesis of 6-Alkenyl- and 6-Alkynylpterins", <i>Tet. Let.</i> , 33(23):3371-3374 (1992).	
	C26	Schircks et al., "Eine neue, regiospezifische Synthese von L-Biopterin", <i>Helv. Chim. Acta.</i> , 60:211-214 (1977).	
	C27	Smith et al., "March's Advanced Organic Chemistry, Reactions Mechanisms and Structure," Wiley & Sons, Inc., 5th Ed., pp. 524-526 (2001).	
	C28	Soyka et al., "Synthese und Eigenschaften von 5,6-Dihydro-6-(1,2,3-trihydroxypropyl)pteridinen: Kovalente intramolekulare Addukte", <i>Helv. Chim. Acta.</i> , 73:808-826 (1990)	
	C29	Sugimoto et al., "The Convenient Syntheses of Biopterin and Its Three Optical Isomers", <i>Bull. Chem. Soc. Jpn.</i> , 48:3767-3768 (1975).	
	C30	Taylor et al., "An Unequivocal Total Synthesis of L-erythro-Biopterin", <i>J. Am. Chem. Soc.</i> , 96:6781-6782 (1974).	
	C31	Viscontini et al., "Synthese des natürlichen D-neopterins und L-Monapterins", <i>Helv. Chim. Acta.</i> , 53:1202-1207 (1970).	
	C32	Viscontini et al., "Eine neue Synthese von D, L-Biopterin", <i>Helv. Chim. Acta.</i> , 55:574-579 (1972).	
	C33	Written Opinion of the International Searching Authority, International application No. PCT/US2004/038313, dated January 11, 2007	
	C34	Zinner et al., "Die partielle Veresterung von D-Arabinose-mercaptalen mit Sulfonsäurechloriden und eine einfache Synthese der 5-Desoxy-D-arabinose", <i>Chem. Ber.</i> , 92:1618-1623 (1959).	

Examiner Signature		Date Considered	
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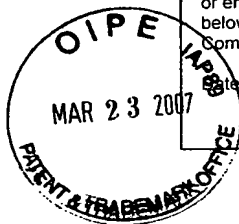
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	C35	Zinner et al., "Synthese und Derivate der 2.5-Didesoxy-D-ribose", <i>Chem. Ber.</i> , 92:2893-2896 (1959).	
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Dated: March 19, 2007

Signature:

*Shelley C. Danek*  
(Shelley C. Danek)

Docket No.: 30610/40661  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Moser et al.

Application No.: 10/579,106

Confirmation No.: 6288

Filed: May 12, 2006

Art Unit: Not Yet Assigned

For: PROCESSES FOR PREPARING  
TETRAHYDROBIOPTERIN AND  
ANALOGS OF TETRAHYDROBIOPTERIN  
TETRAHYDROBIOPTERIN

Examiner: Not Yet Assigned

**INFORMATION DISCLOSURE STATEMENT (IDS)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)). Therefore, no fees are believed to be due. However, the Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 13-2855, under Order No. 30610/40661. A duplicate copy of this paper is enclosed.

A summary/abstract translation of the non-English language references is enclosed.

In accordance with 37 CFR 1.98(a)(2)(ii), Applicant has not submitted copies of U.S. patents and U.S. patent applications. Applicant submits herewith copies of foreign patents and non-patent literature in accordance with 37 CFR 1.98(a)(2).

Dated: March 19, 2007

Respectfully submitted,

By Shelley Danek

Shelley C. Danek

Registration No.: 57,712

MARSHALL, GERSTEIN & BORUN LLP

233 S. Wacker Drive, Suite 6300

Sears Tower

Chicago, Illinois 60606-6357

(312) 474-6300

Agent for Applicant